Calamites.—Impressions of casts of the external features of *Calamites* stems are still very little known in comparison with the pith casts of the same plants. In all four of the large monographs now available on the *Calamites*, by STUR, WEISS, KIDSTON, and especially JONGMANS, by far the greater number of the figures relate to the pith casts. As a rule, examples of both medullary casts and impressions showing the true external features of the stem are mixed together in confusion, and are all referred to a common genus, *Calamites*. Neither from the generic nor the specific names employed can one distinguish whether one is dealing with pith casts or with the rarer external surfaces of these stems. It is hardly necessary, however, to point out that incrustations of the external features of the stems of these plants are of an entirely different morphological nature from the medullary casts. For this reason ARBER had proposed in 1916 a new form genus, *Calamophloios*, for the external stem impressions, with the exception of the very distinct type of *Dictyocalamites* which had been established already in 1912.

ARBER and LAWFIELD[30] intend to establish a number of species of these two new types, and they suggest that the same specific name may be used for both types of preservations, the internal and external ones. They avoided adopting new specific names for the types of *Calamophloios*, therefore, as compared with the pith casts. The authors also succeeded in carrying out a correlation of a number of external surfaces and pith casts of *Calamites*.—A. C. NOÉ.

Pliocene flora of Varennes.—The Pliocene flora of Varennes is the subject of a monograph by DE LA VAULX and MARTY,[31] which is divided into the following sections: (1) geology of the fossiliferous beds of Varennes, (2) a critical study of the fossil plants of Varennes, (3) a description of new species discovered in the deposits of Varennes, (4) paleontological, stratigraphical, botanical, and climatological conclusions; also a chapter on fossil Diatomaceae of Varennes is added. Of the forty-seven genera which are described in the fossil flora of Varennes, and which belong to twenty-three families, thirty-eight specific determinations could be made. Fourteen new species were established.

Ecologically, the flora of Varennes indicates a temperate climate, because of the thirty-seven definite species found at Varennes, thirty-four belong to the temperate zone. This flora also contains more continental than insular species. Almost all the species which form the flora of Varennes, or their nearest living relatives, inhabit at present the more or less mountainous districts

---

[30] ARBER, E. A. NEWELL, and LAWFIELD, F. W., On the external morphology of the stems of *Calamites*, with a revision of the British species of *Calamophloios* and *Dictyocalamites* of Upper Carboniferous age. Jour. Linn. Soc. **44**:507–530. *pls. 23–25.* 1920.

[31] DE LA VAULX, ROLAND, and MARTY, PIERRE, Nouvelles recherches sur la flore fossile des environs de Varennes. Rev. Gen. Bot. **32**:282–300; 327–336; 351–68. 1920.